# PHYSICIAN PAYMENT REVIEW COMMISSION

## FEE UPDATE AND MEDICARE VOLUME PERFORMANCE STANDARDS FOR 1992

No. 91-3

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# PREFACE

This report was submitted to Congress in accordance with the Commission's responsibility under the Omnibus Budget Reconciliation Act of 1989 to comment on the recommendations of the Secretary of Health and Human Services and to submit its own recommendations on updating fees and setting the Volume Performance Standard rate of increase for physician expenditures under Medicare Part B.

Christopher Hogan, Ph.D., was the Commission staff member principally responsible for the analysis in this report. David Shapiro, M.D., J.D., authored Chapter 4, and Katherine Macenko provided invaluable assistance in the analysis of technologies.

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# EXECUTIVE SUMMARY

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) established Medicare Volume Performance Standards (VPSs) for physician services. The VPS is a target rate of growth for Medicare physician services outlays. Fee updates will depend in part on the difference between the VPS rate of increase and the actual change in expenditures.

OBRA89 calls for the Secretary of Health and Human Services to recommend, by April 15 of each year, a fee update for the coming calendar year. The Secretary must also recommend a Medicare VPS rate of increase for the coming fiscal year (FY). The Physician Payment Review Commission must comment on the Secretary's recommendations and make its own recommendations by May 15 of each year.

The VPS serves two roles in determining outlay growth. First, it is a budgeting tool. Sharp increases or decreases in expenditure growth will generate offsetting changes in fee updates. Hence, the VPS gives the Congress a structured process for stabilizing the growth in Part B outlays. Second, the VPS is an incentive mechanism. It creates a financial motivation for collective action by physician organizations. Physicians will be rewarded with higher fee levels if education, practice guidelines, and peer review are effective in reducing the overall growth in volume and intensity of services.

This report presents the Commission's fee update recommendation for calendar year 1992, its VPS recommendation for fiscal year 1992, and the supporting information used in developing these recommendations.

## FEE UPDATE AND VOLUME PERFORMANCE STANDARD RECOMMENDATIONS

Three different fee updates may be established: one for all services, one for surgical services, and one for nonsurgical services. However, this year the Secretary recommended a single fee update of 2.2 percent for all categories of service. The Commission also recommends that a 2.2 percent fee update be applied to all categories of service.

Similarly, three VPSs must be established: one for all physician services, one for surgical services, and one for nonsurgical services. For FY 1992, the Secretary recommended rates of increase of 6.2 percent for all physician services, and 4.1 percent and 7.1 percent for surgical and nonsurgical services, respectively. The Commission recommends rates of increase of 8.6 percent for all physician services, and 6.6 percent and 9.6 percent for surgical and nonsurgical services, respectively.

## APPROPRIATENESS, ACCESS, AND TECHNOLOGY

OBRA89 directs that evidence on appropriateness, access, and technology be taken into account when setting the VPS. The information developed for this report updates and expands that provided in the Commission's 1990 VPS report (PPRC 1990b).

In many respects, little has changed since the Commission's 1990 report. Volume of services grew least rapidly for visits and other primary care services, and grew most rapidly for laboratory tests and technical procedures. By specialty, general practitioners and family practitioners had the smallest increases in volume, while procedure-oriented specialists, such as cardiologists and gastroenterologists, had the largest.

Essentially no new empirical research on the level of inappropriate care has come to light since the 1990 report. The literature on the subject suggests that a substantial fraction of care is clearly inappropriate. However, a much smaller fraction of claims are denied by Peer Review Organizations (PROs) and Part B carriers.

The Commission has convened its Advisory Panel on Access to develop a comprehensive plan for monitoring changes in access to care as physician payment reform progresses. A brief summary of the Panel's approach to measuring access to care is presented in this report. A more detailed outline of the Panel's work will be included in the Commission's comments on the Secretary's report an utilization, access, and quality of care.[1]

The analysis of technology presented in the 1990 VPS report was repeated and expanded. Medical societies helped identify Current Procedural Terminology (CPT) codes that represented new or diffusing technologies.[2] As was the case last year, these services accounted for a relatively small proportion of volume growth -- 17 percent. A second portion of the analysis summarizes interviews with numerous physician experts on technology. A common theme expressed by physicians is that new technologies typically reduce risk and discomfort, which in turn results in increased likelihood of treatment.

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[1] The late release of the Secretary's report on utilization, access, and quality precluded the inclusion of the Commission's comments in this report. They will be submitted to the Congress in July 1991.

[2] Examples include CAT scans, MRI scans, joint prosthetics, laser surgery and endoscopic surgery.

## MEDICARE FEES RELATIVE TO OTHER PAYERS

Medicare fee update reductions and fee cuts increased the gap between Medicare and Blue Cross and Blue Shield Plan average allowed charges from 18 percent to 22 percent between 1987 and 1989. Compared to the Plans, Medicare relative payments appear to have been farther from resource-based relative values. Medicare seems to have particularly undervalued visit services relative to the Plans. Medicare's differential fee updates and fee cuts for overvalued procedures during this period moved Medicare relative payments closer to Plan relative payments.

Implications of this analysis for future payment policy are not clear. If growth in the volume of services does not slow, Medicare fees may continue to erode relative to other payers. This could eventually lead to problems in obtaining adequate access to care for Medicare beneficiaries. However, it is difficult to predict whether or how rapidly Medicare payments will decline relative to other payers. This is an area which should be carefully monitored as payment reform progresses.

## TOOLS FOR CONTROLLING CHANGES IN VOLUME

The long-term effectiveness of the VPS mechanism will depend on its success in slowing volume growth. The various tools for restraining growth in the volume of services - effectiveness research, practice guidelines, and physician profiling - are all areas of active research and development. Because these efforts are so new, their ability to control volume growth has not yet been demonstrated. However, the Medicare program will soon see widespread application of these techniques, and evidence of their capability for controlling volume growth is likely to emerge over the next few years.

## SUBNATIONAL VPSs

The Commission has continued its deliberations on subnational Volume Performance Standards. The Omnibus Budget Reconciliation Act of 1990 (OBRA90) specifically expanded the Commission's mandate to include consideration of further refinements of the VPS. Two types of subnational standards have been discussed: state VPS, and VPSs along specialty or service category lines.

At present, the Commission is not recommending either state or specialty/service VPSs. For state VPSs, available data from both Medicare and private payers show very high year-to-year variation in expenditure growth within a state. Those large fluctuations in

expenditure growth make it difficult to set VPSs for individual states. For specialty/service VPSs, difficulties arise primarily from the large differences in trend rates of growth across categories of service. Visits, for example, grow quite slowly, while laboratory tests grow rapidly. Setting VPSs for narrowly defined categories of service would require judgment on whether or to what extent these differential rates of growth should be reflected in different VPSs.

# CHAPTER 1

# FEE UPDATE AND VOLUME PERFORMANCE STANDARD RECOMMENDATIONS

This chapter presents the Commission's recommendations for the calendar year 1992 fee update and the FY 1992 VPS. The Commission and the Secretary both recommend following the default fee update formula, resulting in an across-the-board increase in fees of 2.2 percent for calendar year 1992. For the FY 1992 VPS, the Commission recommends an overall target rate of expenditure increase of 8.6 percent, versus the Secretary's recommendation of 6.2 percent. The Commission views its recommendation as both a reasonable target, one that may be achieved by physicians, and as progress toward its stated goal of reducing physician services expenditure growth to the level of growth in the Gross National Product (GNP) by 1996.

## BACKGROUND

The Medicare Volume Performance Standard (VPS) is a target rate of growth for physician services outlays. The VPS does not limit the funds available for care. Instead, future fee updates will depend in part on the degree to which expenditure increases exceed or fall short of the VPS.

OBRA89 requires the Secretary of Health and Human Services and the Commission to recommend a fee update or updates each year. The fee update recommendation is to take into account the percentage change in the Medicare Economic Index (MEI), the degree to which expenditures exceeded or fell short of the prior year's VPS, and other factors as appropriate. Thus, the update recommendation begins with the MEI, adjusts for the difference between last year's expenditure growth and the corresponding VPS target, then allows for further adjustment if such adjustment appears warranted.

OBRA89 also requires the Secretary and the Commission to recommend VPS rates of increase each year. The VPS rates of increase are to be established for all physician services and separately for surgical and nonsurgical services. Surgical services are defined by the Secretary as all services classified as "surgery" in the Medicare claims reporting system that are performed by surgeons, plus all assistance at surgery.

OBRA89 directs that the VPS recommendation take into account the following factors: inflation, growth and aging of the beneficiary population, evidence of lack of access to care, evidence of inappropriate utilization, changes in technology, and any other factors as appropriate. Inflation and beneficiary growth and aging are fairly easy to measure.[3] However, the remaining three factors (access, appropriateness, technology) have proved difficult to quantify. While it is not possible to attach specific numbers to these factors, the Commission reviewed the available evidence in these areas in developing its VPS and update recommendations.

OBRA89 calls for the Secretary to produce a set of three annual reports to track the progress and problems of physician payment reform. The first report contains the VPS and fee update recommendations. The second report analyzes information on utilization, access, and quality of care and was first issued this year. The third report monitors changes in beneficiary financial liability and will first be issued next year.

OBRA89 requires the Commission to comment on all three of the Secretary's annual physician payment reports. The Commission plans to produce a single report to the Congress commenting on all three of the Secretary's annual reports. Due to the late release of the Secretary's report on utilization, access, and quality, the Commission will comment separately on that report. The Commission will consult with its Advisory Panel on Access[4] and forward comments on this report to the Congress in July 1991.

A final OBRA89-mandated report related to the VPS and requiring Commission comment is a HCFA report on "carve-outs." The Secretary must report on the desirability and feasibility of allowing groups of physicians to carve out their own group-specific VPSs from the national VPS. The Commission examined carve-outs in its 1990 Report to Congress (PPRC 1990a) and rejected them as unworkable. HCFA is still in the process of considering a number of feasibility issues. The Commission will offer further formal comments on this issue when the Secretary's report is released.[5]

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[3] For purposes of setting the VPS, the appropriate measure of inflation is the average fee increase. Growth in the beneficiary population is very predictable using Census and other information, while the aging of the beneficiary population makes only a very small contribution to overall expenditure growth.

[4] OBRA89 directed the Commission to convene and consult a body of experts in developing comments on the Secretary's report. The Commission convened its Advisory Panel on Access for that purpose.

[5] The Secretary must also report on the feasibility of establishing separate VPSs for geographic, specialty, or type of service categories. This report does not require formal Commission comment.

## RECOMMENDATIONS

On May 2, 1991, the Secretary recommended a 2.2 percent fee increase for all physician services for calendar year 1992. This recommendation followed the default fee update formula, reducing the MEI by the amount that expenditure growth exceeded last year's VPS. Expenditure growth in FY 1990 was 10.6 percent, 1.5 percentage points higher than the FY 1990 VPS of 9.1 percent. The Secretary took the projected 3.7 percent increase in the MEI[6] and reduced it by 1.5 percentage points to arrive at a fee update recommendation of 2.2 percent for calendar year 1992.

The Secretary did not recommend different fee updates for surgical and nonsurgical services, so the 2.2 percent fee update recommendation applies to both categories of services. The Secretary made a single fee update recommendation because the 1990 VPS was not broken into separate surgical and nonsurgical components and because the data processing system in place in 1990 did not allow an accurate determination of the separate rates of growth for these two categories of services.

The Commission recommends a 2.2 percent fee increase for all physician services for calendar year 1992 (Table 1). This update follows the default update formula. The Commission also recommends that the same update be applied to surgical and nonsurgical services.

For the FY 1992 VPS, the Secretary recommended a rate of increase of 6.2 percent for all physician services, and 4.1 percent and 7.1 percent for surgical and nonsurgical services, respectively. The Secretary made full allowances for expenditure growth due to increases in fees, growth and aging of the beneficiary population, and the effects of prior legislation. The Secretary also allowed 3.7 percent for increases in volume and intensity per beneficiary, half the recent trend.

The Secretary's recommendation for FY 1992 was made in much the same way as the Secretary's recommendation for FY 1991. The Secretary determined that it was not possible to make an accurate assessment of the necessary increase in volume of services based on the available evidence on appropriateness, access, and technology.[7] Instead, the volume portion of the Secretary's recommendation was based on half the recent trend in volume and intensity growth per beneficiary.

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[6] This projection included a 0.4 percent reduction specified in OBRA90.

[7] The Secretary reported progress in research efforts currently being funded by the Health Care Financing Administration to investigate the issues of appropriateness, access, and technology.

**Table 1: Fee Update and Medicare Volume Performance Standard Recommendations: Physician Payment Review Commission versus Secretary of Health and Human Services**

| | Fee Update Recommendations for Calendar Year 1992 | |
|---|---|---|
| | Commission | Secretary |
| Medicare Economic Index | 4.1 | 4.1 |
| OBRA90 Reduction | -0.4 | -0.4 |
| 1990 VPS Less 1990 Expenditure Growth | -1.5 | -1.5 |
| Total (Fee Update Recommendation) | 2.2 | 2.2 |

| | Medicare Volume Performance Standard Recommendations for FY 1992 | | | | | |
|---|---|---|---|---|---|---|
| | Commission | | | Secretary | | |
| | All | Surgery | Nonsurgery | All | Surgery | Nonsurgery |
| Inflation | 2.1% | 2.0% | 2.1% | 2.1% | 2.0% | 2.1% |
| Enrollment | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| Aging | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| OBRA90 | -1.1 | -1.7 | -1.0 | -1.1 | -1.7 | -1.0 |
| Fee Schedule | 0.0 | -1.2 | 0.8 | 0.0 | -1.2 | 0.8 |
| Other | 6.1 | 6.1 | 6.1 | 3.7 | 3.7 | 3.7 |
| Total (VPS Recommendation) | 8.6 | 6.6 | 9.6 | 6.2 | 4.1 | 7.1 |

Notes: These recommendations should be revised if law or regulation change prior to FY 1992.

The VPS formula is multiplicative. Columns will not add exactly to totals.

The "Other" category is the allowance for growth in volume and intensity of services per beneficiary.

At its meeting on May 2-3, 1991, the Commission examined the Secretary's recommendations and the rationale provided for them. The Commission then recommended an alternate VPS rate of increase based on slightly different reasoning.

Last year, the Commission set as its guiding principle for slowing expenditure growth that the rate of growth of Medicare physician services outlays be brought down to some sustainable level, such as the trend rate of growth in the Gross National Product (GNP). Because growth in physician service volume had typically exceeded GNP growth by 4 to 5 percentage points, the Commission recommended a strategy of gradually reducing the VPS 4 to 5 percentage points below the expenditure growth baseline.

The Commission's VPS recommendation for each year is based on judgment of an appropriate and feasible reduction from the expenditure growth baseline. In judging the appropriate amount of reduction, the Commission reviews data on outlay and volume growth and information on access, appropriateness, and technology. It attempts to estimate the reduction in volume growth that is warranted by these factors. At the same time, when considering the feasibility of its recommendations, the Commission considers the magnitude of the reduction and the status of tools available for constraining volume growth. This approach is based on the assumption that a VPS that is impossible to achieve does little or nothing to motivate the medical community to seek ways to restrain volume growth.

Last year, the Commission reduced the Medicare Actuary's baseline projection by 2 percentage points to arrive at its VPS recommendation. This year, the Commission reduced the Actuary's projection of volume growth by 2.5 percentage points to arrive at the VPS recommendation. Thus, the Commission's recommendation this year is a continuation of the policy it developed last year, moving it roughly half-way toward a 1996 goal of a 4 to 5 percentage point reduction in expenditure growth.

To develop its numerical VPS recommendation the Commission began with the Medicare Actuary's baseline projection of 11.2 percent growth in physician services outlays for FY 1992.[8] This included a projected 8.6 percent increase in volume of services per beneficiary. After reviewing the evidence on appropriateness, access, and technology, the Commission decided that physicians could feasibly achieve a 2.5 percentage point reduction from that baseline volume growth. This yielded the Commission's VPS recommendation of 8.6 percent. Even after the 2.5 percentage point reduction, this recommendation allows for a 6.1 percent increase in volume and intensity of services per beneficiary in FY 1992 (Table 1).

The difference between the Commission's recommendation of 8.6 percent and the Secretary's recommendation of 6.2 percent arises from two sources. The Commission and the Secretary used the same estimates for the impact of growth and aging of the beneficiary population, inflation, and the impact of legislation. However, the Secretary

[8] The baseline refers to the expenditures expected to occur in FY 1992 with no further changes in legislation and no additional action by physicians to control costs.

used the historical rate of growth of volume to determine a baseline expenditure growth of 10.0 percent. The Commission, in contrast, used the Actuary's projection of volume growth in its expenditure baseline of 11.2 percent. The Secretary reduced this baseline volume growth by 3.7 percentage points, or half the historical trend, while the Commission determined that a 2.5 percentage point reduction was consistent with its long-term goals. The combination of a higher baseline (11.2 versus 10.0) and a smaller reduction from baseline (2.5 versus 3.7) led the Commission to recommend a VPS that was 2.4 percentage points higher than the Secretary's.

OBRA89 called for the Secretary and the Commission to recommend a separate VPS for surgical and nonsurgical services. The Secretary recommended VPS rates of increase of 4.1 and 7.1 percent for surgical and nonsurgical services, respectively. The difference between these two standards is accounted for entirely by the differential effects of law and regulation.

The Commission recommends VPS rates of increase of 6.6 and 9.6 percent for surgical and nonsurgical services, respectively. As with the Secretary's recommendation, the difference between these two standards is accounted for entirely by the differential effects of law and regulation (Table 1).

As it did last year, the Commission recommends that the VPS recommendations be amended for most but not all future changes in legislation. The VPS should not be reduced in cases where legislation directly seeks to reduce the volume of services or utilization.[9] On the other hand, it is appropriate to reduce the VPS if changes in law or regulation result in fee reductions. The Commission further recommends that the update recommendation should be adjusted if the Medicare Actuary develops a more accurate projection of the 1992 increase in the MEI.

## CONCLUSION

With this first complete set of VPS and fee update recommendations, the VPS system has become fully operational. True to its original intention, both the Commission and the Secretary based their recommendations for the 1992 fee update on the difference between 1990 expenditure growth and the 1990 VPS. If the Congress accepts these recommendations, it will have set a precedent for the envisioned linkage between volume growth and fee growth.

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[9] For example, OBRA90 eliminated payments for certain assistance at surgery services and thereby reduced total volume. Legislation that eliminates payment for specific services should not lower the VPS. Instead, all reductions in unnecessary care, whether initiated by physicians or by legislation, should count as reductions in volume that help meet the VPS target.

The Commission's goal of reducing physician services expenditure growth to the level of growth of nominal GNP must be undertaken at a reasonable pace and must be tempered by the experience of the next few years. A VPS that is achievable maintains the linkage between volume growth and fee updates and provides an incentive for the physician community to act to restrain volume growth. A VPS that is impossible to achieve will result in the maximum reductions to the fee update, eliminating any tradeoff between volume growth and fee growth and creating little incentive for action by the physician community to restrain volume growth.

In this light, the Commission has recommended remaining on a path of moderate but increasing reductions in outlay growth. This will give the medical community both the incentive and the time to work to reduce volume growth. Considerable progress is being made in the areas of practice guidelines, research on appropriateness, effectiveness, and outcomes, and profiling of individual physicians. With these new tools, medicine is moving toward a more orderly and systematic approach to determining the appropriate volume of care. However, developing and implementing these changes take time. The Commission's recommendations afford the greatest incentive and opportunity for the medical community to bring these efforts to fruition.

# CHAPTER 2

# APPROPRIATENESS, ACCESS, AND TECHNOLOGY

OBRA89 directs that the VPS recommendation take into account the degree of inappropriate utilization, evidence of lack of access to care, and changes in technology, among other factors. This chapter updates the analysis of these three factors contained in the Commission's 1990 VPS Report (PPRC 1990b).

The first section of the chapter presents data showing outlay and volume growth trends for various categories of services from 1986 through 1989. As was shown last year, visits are the slowest-growing category of service, and technical procedures and tests are the fastest growing.

Next, the analysis of appropriateness presented in the Commission's 1990 VPS Report (PPRC 1990b) is updated. Almost no new empirical literature has appeared since that report, and the conclusion of that report remains unaltered. The literature suggests that a considerable volume of care is clearly inappropriate, yet denials of claims by Peer Review Organizations (PROs) and Part B carriers amount to only about 2 percent of expenditures.

The third section of the chapter summarizes the Commission's work on monitoring access to care. The Commission has convened its Advisory Panel on Access to help develop strategies for monitoring changes in access as payment reform progresses. A more detailed report in this area will be submitted along with the Commission's comments on the Secretary's report on utilization, access, and quality at a later date.[10]

Finally, an analysis of the impact of new technologies is presented. The quantitative analysis is similar to that presented in the 1990 report (PPRC 1990), implying that new technologies account for at most 17 percent of all volume growth. This section also includes a summary and synthesis of numerous interviews with physician experts on new technologies.

[10] The late release of the Secretary's report on utilization, access, and quality precluded the inclusion of the Commission's comments here. They will be submitted to the Congress in July 1991.

## TRENDS IN PRICES, VOLUMES, AND EXPENDITURES

This section of the chapter presents information on trends in Part B outlays, prices (mean allowed charges), and volume of services over the period 1986 through 1989. As was demonstrated last year, primary care services, such as visits, constitute the slowest-growing category of service. Rapid growth is occurring in technical procedures and tests. This is mirrored in an analysis of expenditure growth by physician specialty, in which general practitioners have shown the slowest growth, while specialties such as gastroenterology and cardiology have shown the most rapid growth.

### Data Source

To obtain data on Medicare Part B outlays and volume, the Commission relies on reports and data files produced by the Office of the Actuary (OACT) and the Bureau of Data Management and Strategy (BDMS) of the Health Care Financing Administration (HCFA). Last year, the Commission took advantage of the early release of the Supplementary Medical Insurance Trust Fund Trustees' Report produced by the HCFA OACT to develop tables showing long-term trends in outlays and prices. This year that report was not released in time for those tables to be updated. Instead, this year's analysis is restricted to examinations of the 1986 through 1989 Part B Medicare Annual Data (BMAD) files. These files are produced by the HCFA BDMS based on submissions from the Part B carriers. BDMS has noted substantial data reporting errors for several carriers over this time period. Therefore, this analysis is not based on data from all Part B carriers. Instead, only the subset of carriers that reported data consistently over this period are included.[11]

### Trends in Volume of Services

The rate of growth of volume of services varied considerably across categories of services over the period 1986-1989 (Table 2). As has been typical of recent trends, visits and consultations are among the slowest-growing services. Major surgeries were the second slowest-growing category. Imaging was the third slowest-growing category, despite the rapid growth in high-technology services such as computerized axial tomography (CAT scans) and magnetic resonance imaging (MRI scans). The slow growth of more routine imaging helped reduce the average rate of volume growth for imaging services. Finally, various tests and technical procedures grew fastest, with eye procedures and lab tests showing the most rapid volume growth. For example, the volume of laser surgery for secondary cataracts increased 53 percent per year over this period, arthroscopies grew by 22 percent per year, and lab tests other than automated multichannel tests grew by 20 percent per year.

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[11] This is the same set of carriers used for the 1990 report, with the exception of the railroad retirement carrier, which was dropped from this year's analysis. These carriers account for about half of all Part B outlays.

**Table 2. Growth in Expenditures, Prices, and Volumes, 1986-1989**

| | Annualized Change In | | | Percent of |
|---|---|---|---|---|
| | Price | Volume | Outlays | 1989 Outlays |
| Visits, Emergency | 6.6 | 15.4 | 23.1 | 1.47 |
| Visits, Home | 5.9 | -3.3 | 2.5 | 0.15 |
| Visits, Hospital | 2.9 | 3.7 | 6.8 | 9.90 |
| Visits, Nursing/Rest Home | 4.9 | 4.2 | 9.2 | 1.01 |
| Visits, Office | 5.2 | 6.3 | 11.8 | 12.58 |
| Consultations | 4.0 | 6.9 | 11.1 | 3.63 |
| **Subtotal - Visits And Consultations** | **4.2** | **5.6** | **10.1** | **28.74** |
| Electrocardiograms, All | 4.0 | 5.8 | 10.1 | 3.02 |
| Echocardiograms | 2.3 | 22.6 | 25.5 | 1.19 |
| Medical Procedures, Cardio | 6.0 | 7.3 | 13.7 | 0.09 |
| Medical Procs, Cardiac Cath | 4.1 | 15.5 | 20.2 | 1.73 |
| Medical Procs, Other Cardiovasc | 5.4 | 19.1 | 25.6 | 0.01 |
| Angioplasty PTCA | 3.4 | 30.6 | 35.1 | 0.52 |
| Angioplasty - PTA, PVA | 1.1 | 79.9 | 81.8 | 0.06 |
| **Subtotal - Cardiac Services** | **4.0** | **13.4** | **17.9** | **7.63** |
| Visits, Eye | 3.4 | 17.8 | 21.8 | 0.61 |
| Medical Procedures, Eye | 4.3 | 18.6 | 23.7 | 0.79 |
| **Subtotal - Medical Eye Services** | **3.7** | **18.0** | **22.4** | **2.40** |
| Medical Procedures, Gastro | 7.2 | 6.3 | 14.0 | 0.01 |
| Medical Procedures, Immunizations | -8.4 | 28.0 | 17.3 | 0.03 |
| Medical Procedures, Otolaryng | 2.8 | 11.0 | 14.0 | 0.15 |
| Medical Procedures, Pulmonary | 4.5 | 12.7 | 17.7 | 3.16 |
| Medical Services, Other | 7.9 | 13.3 | 22.3 | 0.78 |
| **Subtotal - Other Medical Services**[b] | **2.4** | **17.0** | **19.8** | **6.17** |
| Imaging, Ultrasound Not Cardiac | -4.2 | 14.8 | 9.9 | 1.12 |
| Radiology, CAT | -1.7 | 13.5 | 11.5 | 1.98 |
| Radiology, MRI | -6.2 | 72.8 | 62.0 | 0.60 |
| Radiology, Other Diagnostic | 3.7 | 6.6 | 10.6 | 8.36 |
| **Subtotal - Diagnostic Imaging** | **2.0** | **10.5** | **12.6** | **12.06** |
| Lab, Auto Multichannel Test | -5.0 | 11.4 | 5.9 | 0.84 |
| Lab, Other Tests | 0.7 | 19.6 | 20.5 | 5.27 |
| Lab, Surg/Anat Pathology | 6.7 | 8.3 | 15.5 | 1.34 |
| **Subtotal - Lab Services** | **1.1** | **16.4** | **17.7** | **7.45** |
| Endoscopy (Not Turp, Colon, Upper GI) | 3.6 | 8.5 | 12.4 | 1.34 |
| Endoscopy, Colon/Anus | 3.4 | 12.2 | 16.0 | 1.94 |
| Endoscopy, Upper GI | 2.2 | 13.4 | 15.9 | 1.27 |
| **Subtotal - Endoscopy Not TURP** | **3.1** | **11.4** | **14.9** | **4.55** |
| Surgery, CABG | 1.9 | 9.5 | 11.5 | 1.79 |
| Surgery, Joint Prosthesis | 1.8 | 7.9 | 9.9 | 1.60 |
| Surgery, Arthroscopy | 2.8 | 22.4 | 25.8 | 0.25 |
| Surgery, Cataract Lens Replacement | -2.0 | 7.3 | 5.1 | 6.26 |
| Surgery, Secondary Cataract - Laser | 8.8 | 53.2 | 66.7 | 0.94 |
| Surgery, Secondary Cataract - Surgery | -0.1 | -36.2 | -36.2 | 0.04 |
| Surgery, Cataract All Other | -2.4 | -28.7 | -30.4 | 0.05 |
| Surgery, Prostate (Not TURP) | 3.4 | 17.1 | 21.1 | 0.14 |
| Surgery, Prostate (TURP) | 1.6 | -0.9 | 0.7 | 0.92 |
| Surgery, Other | 2.8 | 7.1 | 10.1 | 17.45 |
| **Subtotal - Surgery** | **1.5** | **7.4** | **9.1** | **29.44** |
| All Other | 1.3 | 7.1 | 8.5 | 1.15 |
| Local Codes | 6.9 | -10.0 | -3.8 | 0.41 |
| **Total - All Services** | **2.7** | **9.1** | **12.1** | **100.00** |

Source: PPRC analysis of 1986-1989 BMAD-I data.

Notes: [a] Data are for Part B carriers judged to have reported data consistently over this period. Anesthesiology and assistance at surgery are excluded from the analysis. Local codes were recoded to CPT-4 codes wherever possible.

[b] Information for Psychiatric and Dialysis services is not reported separately due to unreliable price data.

An analysis of volume growth by specialty shows a similar pattern (Table 3). General practitioners and family practitioners showed the lowest volume growth, along with general surgeons. In contrast, procedure-oriented specialists such as gastroenterologists and cardiologists showed the most rapid increases in volume of services.[12]

**Table 3. Expenditure and Volume Growth by Specialty, 1986-1989**

| Specialty | Annualized Growth In Outlays | Prices | Volume | Percent of 1989 Outlays |
|---|---|---|---|---|
| Independent Laboratory | 20.0 | -0.1 | 20.0 | 3.7 |
| Gastroenterology | 23.5 | 2.9 | 20.0 | 2.3 |
| Cardiovascular Disease | 20.7 | 3.6 | 16.5 | 6.7 |
| Pulmonary Disease | 18.8 | 3.0 | 15.4 | 1.4 |
| Podiatrist | 15.8 | 3.1 | 12.4 | 1.5 |
| Radiology | 13.4 | 2.0 | 11.2 | 8.6 |
| Ophthalmology | 12.1 | 0.9 | 11.0 | 11.7 |
| Pathology | 16.7 | 6.2 | 9.8 | 1.2 |
| Neurology | 13.6 | 3.4 | 9.8 | 1.2 |
| Dermatology | 14.0 | 3.8 | 9.8 | 1.7 |
| Thoracic Surgery | 12.5 | 2.6 | 9.6 | 3.2 |
| Otolaryngology | 11.9 | 3.4 | 8.2 | 1.0 |
| Orthopedic Surgery | 10.4 | 2.4 | 7.8 | 4.7 |
| Urology | 10.4 | 3.5 | 6.6 | 3.3 |
| Internal Medicine | 9.7 | 3.0 | 6.5 | 15.4 |
| Family Practice/GP | 9.5 | 4.0 | 5.2 | 8.5 |
| General Surgery | 7.5 | 3.0 | 4.3 | 6.2 |
| Clinic/Group Practice | 6.1 | 2.5 | 3.6 | 5.1 |
| All Other | 7.5 | -0.5 | 8.1 | 5.3 |
| Total | 12.0 | 2.4 | 9.3 | 100.0 |

Source: PPRC analysis of 1986 through 1989 BMAD - I data.

Notes: Data are for Part B carriers judged to have reported data consistently over this period. Anesthesiology and assistance at surgery are excluded from the analysis.

Carriers may revise specialty definitions from year to year.

Nephrology and Psychiatry were excluded from this table due to inconsistencies in reporting price and volume data for those specialties.

[12] Specialty reporting within the Medicare claims processing system is imprecise, and trends in this table may only approximately represent true changes in service growth across specialties. Many carriers reduced the use of "group practice" and "miscellaneous" specialty designations over this period of time. In addition, consistent trends could not be calculated for psychiatrists and nephrologists due to idiosyncracies in the reporting of expenditure and volume data for their services.

A detailed analysis of visits and consultations (Table 4) shows a pattern of increased outlays due both to increased number of visits and increased intensity of the visit mix. Volume for most categories of visits grew quite slowly. On average, 90 percent of the volume increase was due to increased number of visits, while 10 percent of the volume increase was due to shifts in the visit mix. However, emergency care visits showed the largest volume increase, and more than 25 percent of the increase in volume and intensity for emergency visits was caused by a shift toward more expensive visits. From claims data such as these it is difficult to infer whether these increases in visit mix are due to upcoding of visits or to true shifts in the type of visit services provided by physicians.

**Table 4. Impact of Changes in Visit Mix, 1986-1989**

| Type of Visit | Percent of 1989 Visit Outlays | Annualized Growth In Outlays | Annualized Growth In Prices | Annualized Growth In Volume |
|---|---|---|---|---|
| Visits, Emergency | 5.85% | 23.1% | 6.6% | 15.4% |
| Visits, Home | 0.59 | 2.4 | 5.9 | -3.3 |
| Visits, Hospital | 39.41 | 6.8 | 2.9 | 3.7 |
| Visits, Nursing | 4.03 | 9.2 | 4.9 | 4.1 |
| Visits, Office | 50.12 | 11.8 | 5.2 | 6.3 |
| All | 100.00 | 10.1 | 4.3 | 5.5 |

| Type of Visit | Volume | Annualized Growth In No. Visits | Visit Mix | Fraction of Volume Growth Due to Visit Mix Changes |
|---|---|---|---|---|
| Visits, Emergency | 15.4% | 10.7% | 4.3% | 27.9% |
| Visits, Home | -3.3 | -4.0 | 0.7 | . |
| Visits, Hospital | 3.7 | 3.6 | 0.1 | 3.6 |
| Visits, Nursing/ | 4.1 | 2.7 | 1.4 | 33.3 |
| Visits, Office | 6.3 | 5.8 | 0.5 | 7.9 |
| All | 5.5 | 4.9 | 0.5 | 9.9 |

Source: PPRC analysis of 1986 through 1989 BMAD-I data.

Notes: Data are for Part B carriers judged to have reported data consistently over this period. Anesthesiologists are excluded from this analysis.

Visit mix change is defined as volume/intensity growth in excess of growth in the number of visits.

## APPROPRIATENESS OF CARE

The Commission's 1990 VPS report (PPRC 1990b) analyzed the available evidence on appropriateness. Commission staff have found no significant new empirical work published since that time. The findings from that report are summarized here.

Most studies of appropriateness have found that a considerable fraction of care is clearly inappropriate and that a further portion of care is of uncertain appropriateness. Estimates of the proportion of individual procedures that were clearly inappropriate ranged from 13 percent to 60 percent. Estimates for hospital admissions ranged from 6 percent to 40 percent. Inappropriate site of care was one of the most prevalent reasons for a hospital stay to be judged inappropriate (GAO 1989).

Last year's report also summarized the state of carrier and PRO denials based on appropriateness or medical necessity. Findings showed that only about 2 percent of hospital admissions were denied by the PROs, although the super PRO estimated that between five and six times as many admissions should have been denied. Similarly, about 2 percent of Part B billings were denied for reasons of insufficient medical necessity. Further analysis showed that even if all carriers would deny as high a percentage of claims as the most stringent 10 percent of carriers, this would lead to denial of only an additional 1.6 percent of Part B billings.

## ACCESS TO CARE

The Commission's 1990 VPS Report (PPRC 1990b) summarized the state of knowledge about Medicare beneficiaries' access to care and the Commission's plans for further work in this area. This section reports briefly on the Commission's progress. A more detailed report will be sent to the Congress in July 1991, along with the Commission's comments on the Secretary's report on utilization, access, and quality.

OBRA89 directed the Commission to convene and consult a panel of experts to help comment on the Secretary's annual report on utilization, access, and quality. This panel of experts, the Commission's Advisory Panel on Access, was formed and began deliberations this year. The Panel on Access met twice in Washington, DC, on February 15, 1991 and on April 22, 1991. After discussing the panel's role and its responsibilities to the Commission, the panel developed and refined a strategy for monitoring beneficiary access to care under Medicare Part B.

The panel suggested several areas of analysis that centered around measures of provider activity or provider behavior. These analyses reflect the notion that beneficiary access may be affected by physician responses to changes in fees under the Medicare Fee Schedule, shortages of physicians in certain geographic areas, and Medicare's policy for financing graduate medical education.

The panel also suggested tracking beneficiaries with few financial resources. These include beneficiaries without supplemental coverage (Medigap) and low-income beneficiaries. Qualified Medicare Beneficiaries (QMBs), those beneficiaries whose cost sharing amounts are paid by Medicaid but receive no other Medicaid services, could be adversely affected by changes in physician payment. Dual eligibles, beneficiaries receiving both Medicare and Medicaid, may also face new barriers to access.

Finally, the panel suggested tracking carefully those beneficiaries with special medical needs or those who are difficult for physicians to care for. Special attention should be given to monitoring access for the institutionalized, the mentally and physically disabled, persons with end stage renal disease (ESRD), and the very old.

The panel suggested a number of ways to monitor access to care. One approach relies on sentinel events, health care incidents that either should not occur or should occur only rarely if beneficiaries have timely access to adequate primary care.[13] The panel also suggested tracking the stage of disease at first treatment and excess mortality as indicators of poor access. Finally, the panel suggested several measures based on primary care use and use of preventive services.

In summary, the Panel on Access has suggested a series of short-term and long-term indicators of beneficiary access to care. In the coming weeks, the Commission plans to use the panel's work to help formulate comments on the Secretary's report on utilization, access, and quality.

## TECHNOLOGY

The Commission's 1990 VPS Report (PPRC 1990b) included a quantitative analysis of the impact of new technologies on volume growth. That analysis is updated and repeated here. Much the same conclusion is reached: the CPT codes identifiable as new technologies account for only a small increase in the average rate of volume growth. In addition to the quantitative analysis, a summary and synthesis of interviews with a number of physician experts on technology is presented. A common theme brought up by many

[13] An example would be hospitalization for uncontrolled diabetes.

physicians is that many new technologies result is less risk, pain, and disruption than older techniques. Thus, they are often applied earlier in the course of a disease to less severely ill patients, resulting in increases in the total number of treatments provided.

**Summary of Analysis from 1990 Report**

The analysis of technology presented in the Commission's 1990 VPS Report (PPRC 1990b) consisted of identifying and tracking expenditures for CPT codes that represented new or diffusing technologies. Specialty societies, insurers, and other organizations were asked to identify these technologies. Virtually all services identified were included in the list of new technologies.

Last year's analysis proceeded by measuring historical rates of volume growth for all procedures and for just those procedures not identified as new technologies. The difference between those two rates of growth was taken as the impact of the new technology on the average rate of volume growth. Using this measure, new technologies accounted for only about 14 percent of all volume growth. This suggested that new technologies contributed comparatively little to volume growth, at least so far as that could be measured by examining individual CPT codes.

This approach to measuring the impact of technology has some obvious strengths and weaknesses. On the positive side, the approach is clear and replicable. Procedure codes are classified into two groups, and the impact of removing the new technology CPT codes is measured directly. Other potential approaches to this issue are less clear or rely heavily on expert judgment.[14] Second, the list of new technologies is surprisingly robust: nearly all of the dollars and volume of service are found in just a few broad classes of technologies. CAT scans, MRI scans, ultrasound, endoscopy, lasers, and joint prostheses were widely identified as new technologies and account for almost all of the new technology expenditures. Other procedures, while perhaps more exotic, account for only tiny fractions of Medicare outlays.[15]

This approach also has several weaknesses. First, it relies on CPT codes. The choice of which CPT codes are to be counted as new technologies is necessarily somewhat subjective. Perhaps more significantly, some new technologies cannot be identified through growth in individual CPT codes. For example, laparoscopic cholecystectomy (gall bladder removal) is billed under the same CPT code as the traditional open cholecystectomy. Similarly, the use of a new drug, radioisotope, or imaging contrast medium often does not result in a

[14] For example, the "residual" approach counts any unexplained growth in outlays or volume of services as the impact of new technology. Alternatively, panels of experts could be used to assess the expenditure impact of new technologies on the volume of medical services.

[15] For example, organ transplants accounted for only 0.06 percent of Medicare physician service outlays.

new CPT code. Second, this approach does not capture the procedures and services that are related to the use of new technologies. For example, it does not account for the tests or imaging that might be incurred in conjunction with a new type of surgery. Finally, it does not net out the costs of the old technology which is being replaced. For example, an MRI may in many instances replace a traditional single-plane Xray. Thus, the net increase in volume and intensity is less than that implied by the increases in MRI alone. Similarly, many of the new endoscopic surgeries are probably cost-saving on a per-treatment basis compared to older and more invasive surgical techniques.

**Update of Analysis from 1990 Report**

This year's approach to analyzing the impact of new technologies updates and expands the analysis presented in the Commission's 1990 VPS Report (PPRC 1990b). First, the quantitative analysis of growth rates is updated using a more current list of new technologies and more recent claims data. Second, an estimate of the impact of procedures related to the use of new technologies (Lee 1991) is used to account for their impact on volume growth.

This year, medical societies were again asked to identify new technologies. Their responses were used to create an updated list of new technologies. These new technologies were then identified in Medicare BMAD data from the period 1986 through 1989.

The method consists of measuring volume growth for all services and contrasting this to volume growth for just the services not identified as new technologies. Annualized volume growth for all services amounted to 9.1 percent per year (Table 5).[16] Annualized volume growth for those services not identified as new technologies came to 8.0 percent per year. Thus, the impact of the new technologies was to raise average volume growth from 8.0 to 9.1 percent per year. By this calculation, new technologies accounted for about 12 percent of volume growth,[17] similar to the estimate obtained in last year's analysis.

[16] This is not on a per-beneficiary basis and applies only to the years 1986 through 1989. Consequently, it will not match volume growth numbers reported from other sources of information.

[17] Or, after subtracting out growth in the beneficiary population, 14.5 percent of growth in volume per beneficiary.

## Table 5. Impact of New Technologies on Volume Growth

| | Percent of 1989 Outlays | Annualized Growth In Outlays | Prices | Volume |
|---|---|---|---|---|
| All Procedures | 100.00% | 11.9% | 2.6% | 9.1% |
| All Except New Technologies | 84.02 | 11.0 | 2.8 | 8.0 |
| **New and Diffusing Technologies** | | | | |
| Endoscopy - Not Laser Or Transurethral | 3.16 | 13.9 | 2.7 | 10.9 |
| CAT Scans | 1.99 | 11.6 | -1.7 | 13.5 |
| Laser (Except Endoscopic) | 1.96 | 37.1 | 6.2 | 29.1 |
| Endoscopy - Transurethral | 1.67 | 5.0 | 2.4 | 2.5 |
| Prosthesis, Joint | 1.60 | 9.8 | 1.8 | 7.9 |
| Ultrasound (Except Doppler) | 1.24 | 6.0 | -4.4 | 10.8 |
| Ultrasound - Doppler | 0.97 | 37.1 | 3.2 | 32.8 |
| Laser - Endoscopic | 0.65 | 26.0 | 4.5 | 20.6 |
| MRI Scans | 0.60 | 62.0 | -6.2 | 72.8 |
| Angioplasty - Coronary | 0.52 | 35.1 | 3.4 | 30.6 |
| Mammography | 0.48 | 27.8 | -0.6 | 28.6 |
| Arthroscopy | 0.25 | 25.8 | 2.8 | 22.4 |
| Electroencephalogram | 0.12 | 10.4 | 3.6 | 6.6 |
| Prosthesis, Genital | 0.11 | 9.6 | 5.0 | 4.4 |
| Electromyography | 0.11 | 14.8 | 6.5 | 7.8 |
| Radioisotopes, New | 0.11 | 12.8 | 3.1 | 9.4 |
| Lithotripsy - ESWL | 0.08 | 29.5 | 5.9 | 22.2 |
| ECT/SPECT | 0.07 | . | . | . |
| Organ Transplant | 0.06 | 0.7 | 4.4 | -3.5 |
| Angioplasty - Other | 0.06 | 81.8 | 1.1 | 79.9 |
| Urodynamic Studies | 0.04 | 22.4 | 3.0 | 18.8 |
| Implantable Infusion Pump | 0.03 | 64.6 | -0.2 | 65.0 |
| Percutaneous Diskectomy | 0.02 | 55.4 | -1.6 | 57.9 |
| Angioplasty - Intraoperative | 0.02 | 577.4 | 17.9 | 477.2 |
| Implantable Defibrillator | 0.01 | 275.4 | -3.2 | 287.6 |
| Myocardial Biopsy | 0.01 | 26.5 | 4.8 | 20.7 |
| Lithotripsy - Percutaneous | 0.01 | -7.8 | 5.6 | -12.7 |
| Thrombolytic Therapy | 0.01 | 186.5 | -2.6 | 193.7 |
| Xray Absorbiometry | 0.01 | 6.3 | -2.9 | 9.4 |
| Skin Graft, Microsurgical | 0.01 | 35.6 | 5.1 | 29.0 |
| Pulse Oximetry | 0.00 | 208.9 | 0.1 | 207.2 |
| Flow Cytometry | 0.00 | 299.1 | 14.4 | 247.7 |
| Cochlear Implant | 0.00 | 96.8 | 8.0 | 81.8 |
| Bone Growth Stimulator | 0.00 | 24.5 | 1.8 | 22.8 |
| DNA Test For Gene Disorder | 0.00 | -2.4 | 1.6 | -4.4 |

Source: PPRC analysis of 1986 through 1989 BMAD-I data.

Notes: Data are for Part B carriers judged to have reported data consistently over this period. Anesthesiology and assistance at surgery are excluded from the analysis. Local codes were recoded to HCPCS codes whenever possible.

A "." denotes that a percentage change could not be computed.

Price and volume estimates may be unreliable for some services in the bottom half of the table.

The American Medical Association's Center for Health Policy Research has examined the issue of related procedures within this framework (Lee 1991). They identified those services most commonly billed in conjunction with individual new technologies[18] and used a calculation similar to the one used here to estimate the impact of these related procedures on volume growth. They found that related procedures may increase the estimated impact of technology by as much as 42 percent. Applying that estimate to the calculation above, this would imply that new technologies may account for as much as 17 percent of volume growth[19] over the period 1986-1989.

The above calculations are the appropriate way to look at the impact of new technology in the context of the VPS. These calculations show how much lower the VPS could be if it included only old technologies, or conversely, how much higher the VPS must be since it includes both old and new technologies. Alternatively, however, we might express the impact of new technology as a proportion of new service volume, that is, 1989 volume less 1986 volume. Compared to the VPS-based approach, this calculation emphasizes the high rate of growth of new technologies and de-emphasizes the relatively small share of total outlays going to new technologies. This calculation shows that the new volume of services (1989 volume less 1986 volume) for new technologies was 25 percent of all new volume (1989 volume less 1986 volume). Thus, while new technologies may have only a relatively small measurable impact on the VPS, they constitute a larger proportion of new volume of health care services.

**Discussion of Issues Surrounding New Technologies**

Commission staff polled experts selected by various medical societies regarding the creation, diffusion, and impact of new technologies. The discussions below synthesize and summarize the remarks from those physicians.

In terms of initiation and diffusion of new technologies, nearly all the physicians interviewed suggested that professional meetings were the primary source of information on new techniques and technologies. Many dismissed the notion that manufacturers' representatives were a major factor in spreading new technologies. Only one suggested that "push" from particular entrepreneurial suppliers was the dominant factor in spread or acceptance of a new technology.

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[18] For example, the typical CAT scan might generate an additional office visit to follow up the results of the scan. This additional visit would represent a net increase in volume of services due to the use of the new technology.

[19] Or, after subtracting out growth in the beneficiary population, 20.5 percent of growth in volume per beneficiary.

Many of the respondents emphasized that lack of training was often a more significant factor in slowing the diffusion of new technologies than was the presence of specific new pieces of equipment. In this regard, some physicians suggested that manufacturers seek to include influential physicians in the planning, development, and testing of new technologies. These physicians' familiarity with the new technology at the time of its general introduction allows a more rapid spread of the necessary physician training and often helps the technology gain acceptance.

Coverage of new technologies was also mentioned as a factor limiting the diffusion of new technologies. The Health Care Financing Administration (HCFA) evaluates centrally only 20 to 30 technologies each year, issuing coverage guidelines to be followed by all carriers. In many cases, however, carriers identify new technologies not addressed by HCFA guidelines, typically when they notice a pattern of claims without procedure codes, with unfamiliar procedure codes, or with unestablished price levels. When this occurs, carriers are responsible for their own assessments and coverage decisions. Thus, coverage tends to lag behind the introduction of new technologies, and coverage decisions vary across carriers (DHHS 1988).

Several physicians noted that new technologies are not synonymous with either new medical devices or new CPT codes. Many of the new endoscopic surgeries take advantage of equipment that has been in use for many years. For example, gastroenterologists have been able to pass a heated probe for cauterization through an endoscope for at least a decade. Only recently, however, has this technique found widespread acceptance for the control of upper gastrointestinal bleeding. Similarly, the endoscopes which have been used for diagnosis of sinus disease are now used for minimally invasive sinus surgery. Finally, laparoscopic cholecystectomy is billed under the same CPT code as the more traditional open cholecystectomy. Thus, the shift to laparoscopic surgery cannot be identified from claims data since no new CPT code is involved.

New technologies varied in their impact on the costs of treating an individual case. For example, cochlear implants, which can cure some types of deafness, are a strictly new technology and do not replace existing technologies. While cochlear implants improve the quality of life for Medicare beneficiaries, they probably do not reduce outlays for other types of medical care. Hence, this technology probably increases the per-case cost of treating deafness. On the other extreme, many endoscopic surgeries result in a considerable reduction in costs per case compared to older surgical techniques. For example, the laparoscopic cholecystectomy typically results in a one day hospital stay or even outpatient surgery, compared to the one week stay for a traditional open cholecystectomy. New imaging techniques probably lie somewhere in the middle, replacing less costly and older methods of diagnosis but substantially improving accuracy of diagnosis.

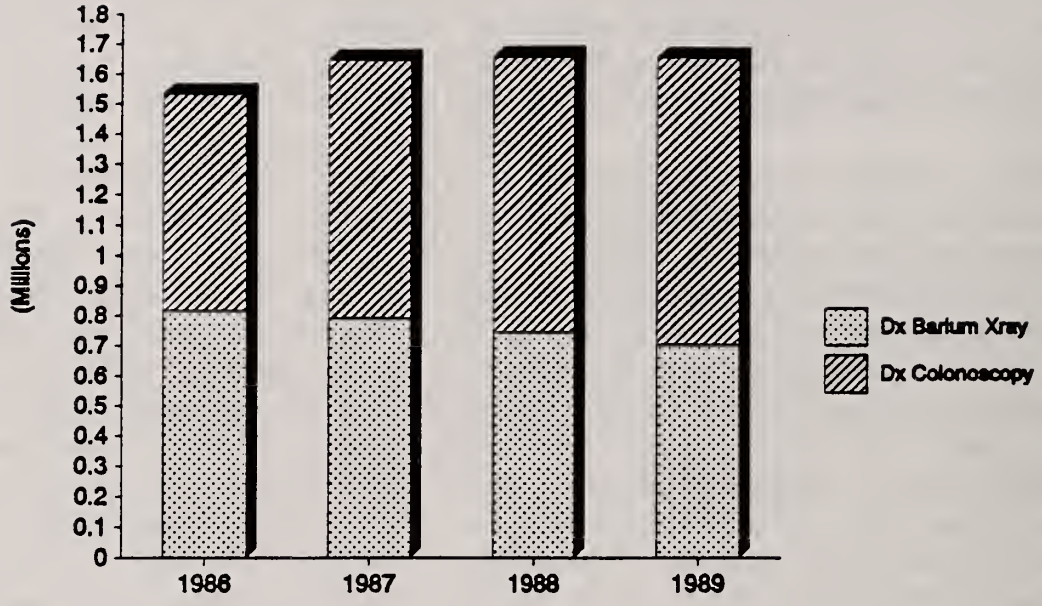
In terms of their impact on total Part B costs, discussion of endoscopic surgeries revealed two main themes. First, these surgeries typically reduce the cost of treating a single case. Significantly shorter hospital stays and recovery times are the norm. In the working population that means that fewer days of work are lost, and some physicians reported a considerable push from employers to utilize these less-invasive surgical techniques.

However, a second and related theme also emerged: lower risk and discomfort lead to increased use. Both patients and physicians are more willing to undertake the surgery, increasing the total number of cases as the cost per case falls. Patients note the lower levels of discomfort and more infrequent disruption of routines and are less likely to resist these less-invasive forms of surgery. Physicians, in turn, observe the lower risks involved in minimally invasive surgery and, in making a risk/benefit assessment of the treatment decision, are willing to perform the surgery in the presence of much weaker indications or at a much less advanced stage of the disease. With regard to laparoscopic cholecystectomy, physicians appear to be much more likely to forgo medical treatment or greatly shorten the course of medical treatment, and to remove the gallbladder before acute distress develops on the part of the patient. In the case of endoscopic sinus surgery, physicians are beginning to rely more upon actual endoscopic examination for diagnosis of the state of sinus disease and will undertake the surgery sooner in the course of the disease, often before the patient exhibits more advanced symptoms.

Some examples (Figures 1 through 5) illustrate this phenomenon of reduced per case costs and risks leading to increased number of cases for a number of less invasive procedures. The use of diagnostic barium enema has been partially replaced by diagnostic colonoscopy, but the total of diagnostic colon procedures has increased. Percutaneous transluminal coronary angioplasty (PTCA) seems to have slowed the rate of growth of bypass surgery but has by no means reduced the number of bypasses performed. Extracorporeal shock wave lithotripsy (ESWL) has all but eliminated other forms of surgical treatment for kidney stones, yet the total number of operations for kidney stones has increased substantially. The use of lasers to remove secondary cataracts[20] has reduced the surgical approach to that problem by two-thirds. Total treatments for secondary cataract, however, have more than doubled. Finally, endoscopic nasal and sinus surgery has more than offset the declines in traditional approaches to surgery in this area.

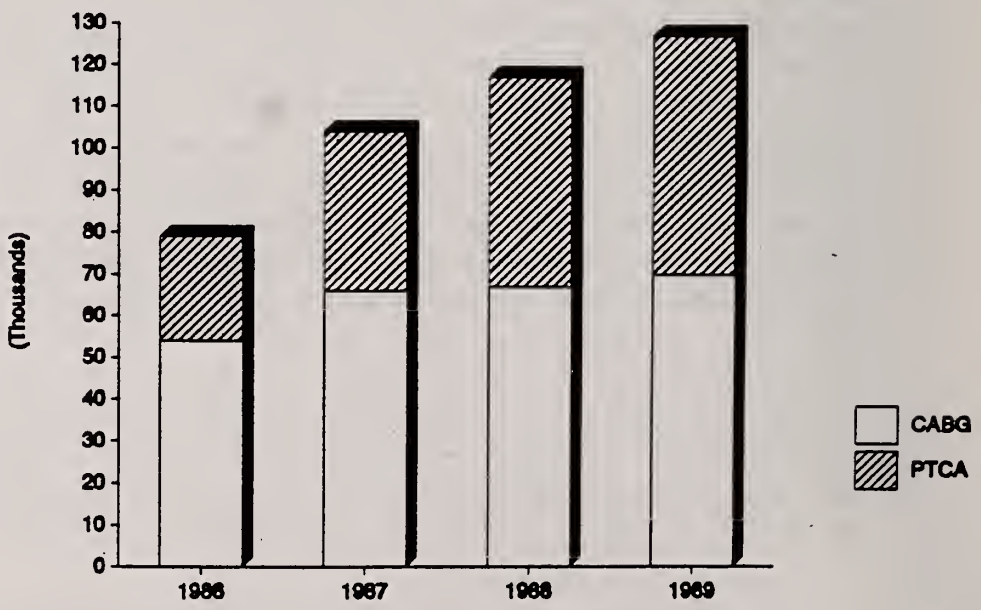
[20] Secondary cataracts may occur as the natural crystalline lens of the eye begins to re-grow over an implanted lens prosthesis.

Figure 1. Lower GI
Diagnostic Procedures



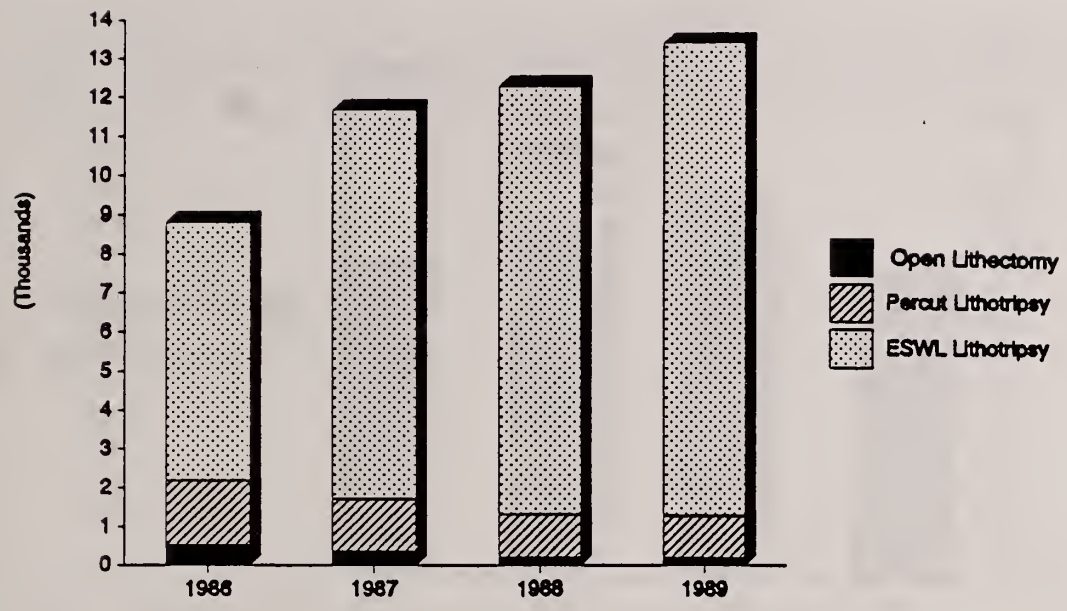

Note: Data are from approximately half of Part B carriers.

Figure 2. CABG and PTCA



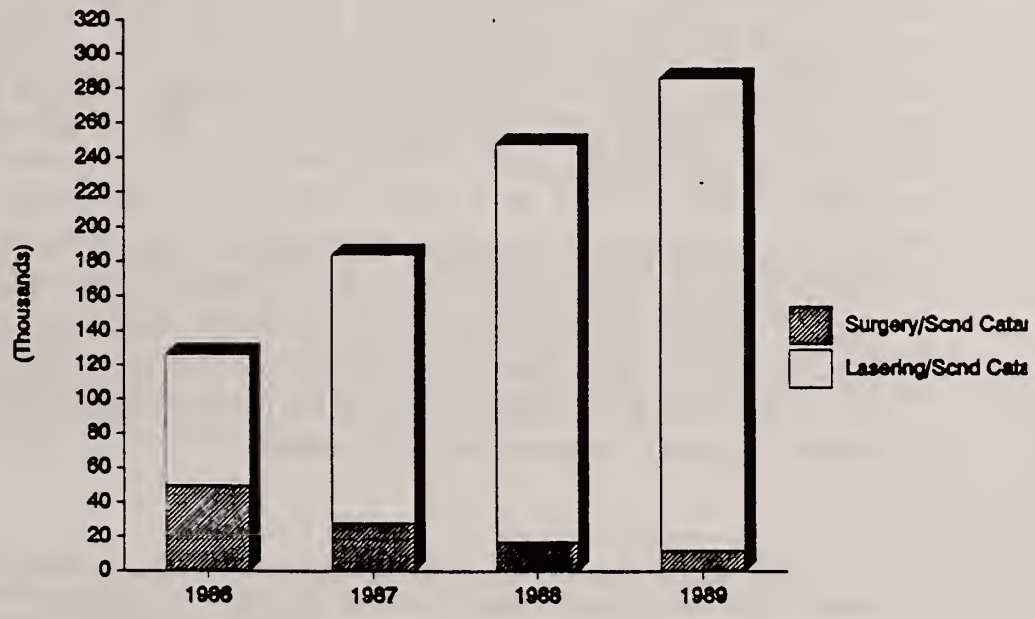

Note: Data are from approximately half of Part B carriers.

Figure 3. Surgery for Kidney Stones



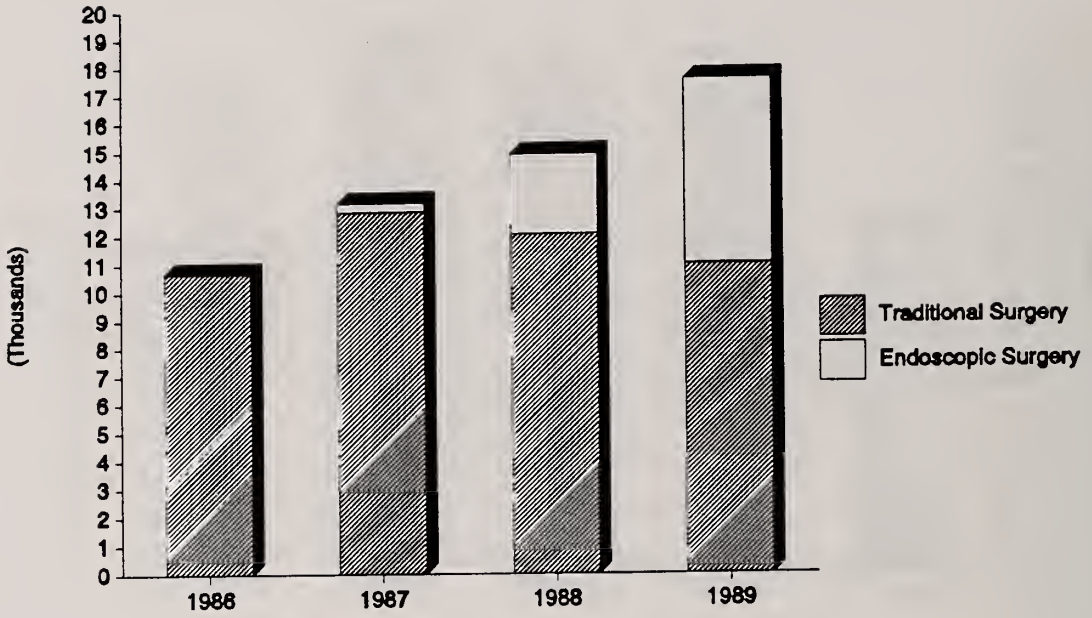

Note: Data are from approximately half of Part B carriers.

Figure 4. Treatment of Secondary Cataracts




Note: Data are from approximately half of Part B carriers.

## Figure 5. Nasal Surgery




**Note: Data are from approximately half of Part B carriers.**

Cataract surgery may be a model for increased utilization following the advent of improved surgical technique. During the 1980s, lens implant improvements and new surgical techniques transformed cataract surgery into a safe, rapid, and convenient cure for cataracts. This created a temporary backlog of individuals who met the new, less stringent indications for surgery. The result was a rapid increase in the use of cataract surgery, followed by a return not to the original rate of use, but to a now higher rate of use of cataract surgery (Table 6).[21]

It appears typical, then, for endoscopic treatments and other less-invasive new technologies to lead to an increased volume of services. Risk and pain to the patient have been lowered, and physicians have reduced the indications considered necessary before surgery is undertaken. In effect, these procedures are provided to less severely ill beneficiaries, that is, those with a less advanced stage of the particular disease, thereby increasing the number of potential candidates for the procedure.

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[21] The leveling-off of cataract surgery was discussed in the Commission's 1990 VPS Report (PPRC 1990b). Indeed, 1989 BMAD data show a decline in cataract lens implants per beneficiary. However, BMAD data are not available prior to 1985. To show the longer-term trends we have relied on national registrations of lens implants. Medicare accounts for roughly 85 percent of all cataract implants, so these lens counts should provide a fairly accurate picture of trends in Medicare cataract surgery.

**Table 6. Trends in Cataract Lens Implantation, 1978-1989**

| Time Period | Number of Lenses | Percent Change |
|---|---|---|
| 1978 | 123,000 | n/a |
| 1979 | 173,000 | 40.6% |
| 1980 | 229,000 | 32.2 |
| 1981 | 334,000 | 45.8 |
| 1982 | 495,000 | 48.2 |
| 1983 | 631,000 | 27.5 |
| 1984 | 817,000 | 29.5 |
| 1985 | 929,000 | 13.7 |
| 1986 | 1,090,000 | 17.3 |
| 1987 | 1,185,000 | 8.7 |
| 1988 | 1,174,000 | -0.9 |
| 1989 | 1,218,000 | 3.7 |

Source: Walter Stark, M.D., Wilmer Eye Institute, Johns Hopkins University.

Note: Annual data are measured from February of one year to February of the next year.

Finally, because these new technologies result in earlier surgical intervention, their ultimate impact on per-case costs depends not only on a comparison with the costs of more invasive surgery but also on the alternative medical treatments which are avoided or on the long-term followup costs which are incurred. On the positive side, the early application of minimally invasive surgery may eliminate some medical therapy that would have been the alternative course of treatment. In the case of cholecystectomy, the procedure eliminates the prescription and monitoring of stone-dissolving drugs. Sinus endoscopy eliminates some of the extensive course of treatment with nasal steroids, antihistamines, and antibiotics that was the typical alternative to surgery. Thus, per-case costs might be substantially reduced. On the negative side, some types of procedures require long-term followup care. For example, cataract surgery may require followup treatment for the removal of secondary cataracts. To the extent that such care is necessary to maintain the health improvement after surgery, per-case costs of treatment might be higher as a result of the earlier surgical intervention.

# CHAPTER 3

# MEDICARE FEES RELATIVE TO OTHER PAYERS

While the VPS was intended to slow expenditure growth by slowing volume growth, there is no guarantee that this will indeed happen. Instead, if volume growth does not slow, the VPS will result in reductions in fee updates and erosion of the real value of fees paid by Medicare. This might eventually lead to problems in obtaining good access to care for Medicare beneficiaries.

It is important, therefore, to track changes in the level of Medicare payments relative to what physicians might receive from other payers. It is widely known that Medicare pays less per service than most private payers. However, comprehensive data on rates paid by private insurers is not available. It is difficult to determine accurately how Medicare compares to the typical private payer and even more difficult to track the gap between Medicare and private payer rates over time.

We have focused here on a comparison of mean allowed charges between Medicare and several Blue Cross and Blue Shield Plans. Data from the Plans provides a large, stable, and consistent private payer database for comparison with Medicare payment rates.[22]

## METHODS

The Blue Cross and Blue Shield Association (BCBSA) has recently gathered information on payment for physician services from a substantial number of Blue Cross and Blue Shield Plans. This physician payment database currently spans the years 1987 through 1989. Plans reported allowed charge and frequency information for individual CPT codes. Payments made under nontraditional lines of business (HMOs, Medigap, secondary payer claims, out-of-area claims) were largely excluded, as were all charges for anesthesiology and assistance at surgery. These data are quite comparable in structure and content to the Medicare BMAD data and permit allowed charge levels to be compared across the two payers.

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[22] The Commission would like to thank the Blue Cross and Blue Shield Association for providing the data for this analysis.

The BCBSA provided the Commission with data on the ratio of the Medicare mean allowed charge to the Plan mean allowed charge for roughly 90 CPT codes for 30 Plans for the years 1987, 1988, and 1989. In each case, data from the Plan had been compared to Medicare data in the corresponding carrier area. Because Plans were identified by a single code letter, and because only the ratio of Medicare to Plan payment was reported, the anonymity of the Plans was guaranteed.

Some consistency checks were performed to assure the reliability of the results. Twenty-five Plans reported data for all three years. Plans that did not report data for all three years were eliminated from the analysis to prevent changes in the composition of the sample of Plans from affecting the allowed charge comparison. Data for radiology and pathology codes were not comparable across payers due to differences in the coding of professional and technical components, and so these codes were excluded. Any code for which reported Plan payment was less than half or more than 2.5 times the Medicare payment was excluded. Codes for which only a minority of Plans reported data were also excluded.[23]

Data for the individual CPT codes were weighted to reflect the proportion of various types of services in the Medicare data. For example, the 90 original codes contained many of the procedures judged "overvalued" in the OBRA87 legislation. Because these codes were over-represented among the 90 codes sampled, they were downweighted when making the overall Medicare to Plan comparison. Correspondingly, codes for evaluation and management services and technical procedures were upweighted.

Results from any comparison of Medicare and Plan allowed charges must be interpreted with caution. Numerous differences between Medicare and the Plans may affect these payment measures. First, Plans and carriers may have different global surgical service definitions, affecting the average payment for surgical CPT codes. Second, Plans may contract with a limited network of providers, but the Medicare program is necessarily open to all physicians. Thus, the nature of Plan contracting may affect allowed charges. Third, Plans and carriers may differ in the recording of charges and frequencies for some CPT codes. For example, some Plans may aggregate all hospital visits for a single stay into one payment, resulting in an apparently very high average charge (and low frequency of service) relative to Medicare. Finally, the mix of specialists differs substantially between Medicare and the Plans, and the average fee measures may be affected by this difference in specialty mix. For example, the average allowed charge for a visit code might appear lower for Medicare in part because a smaller proportion of Medicare visits may be made to (more highly paid) specialists rather than (less highly paid) general or family practitioners.

[23] Only a very small portion of the data failed these outlier checks.

## RESULTS

Results show several interesting aspects of the gap between Medicare and Plan mean allowed charges (Table 7). First, the OBRA87 overvalued procedure fee reductions and other Medicare budgetary restraints have widened the gap between Medicare and Plan payments over this period. In 1987, Medicare allowed charges averaged roughly 82 percent of BCBS allowed charges. By 1989, this had fallen to 78 percent. Services where Medicare fee updates were highest, such as visits, saw the smallest reduction relative to BCBS. Overvalued procedures saw the largest reduction due to the fee decreases mandated for those procedures by OBRA87.

**Table 7. Trends in Medicare Average Allowed Charges Relative to Blue Cross and Blue Shield Plans**

| | Medicare Allowed Charge as Percent of Plan Allowed Charge | | | |
|---|---|---|---|---|
| | 1987 | 1988 | 1989 | 87-89 Change |
| All services (58 codes) | 82% | 79% | 78% | -4 |
| Office Visits (5 codes) | 81 | 79 | 79 | -2 |
| Overvalued Procedures (28 codes) | 89 | 84 | 83 | -6 |
| All other services (25 codes) | 80 | 78 | 76 | -4 |

Source: PPRC analysis of data provided by the Blue Cross and Blue Shield Association.

Notes: Radiology, pathology, and anesthesia services are omitted.

There are numerous differences between Blue Cross/Blue Shield claims and Medicare claims that add uncertainty to any comparative analysis. These results should be interpreted with caution. See text for a more complete explanation of data limitations.

Second, the gap between Medicare and Plan rates is much larger for evaluation and management services than for technical procedures. Differences in specialty mix may account for some of this difference. Blue Cross/Blue Shield visits, for example, are more

heavily weighted toward OB/GYN services than are Medicare visits. On the other hand, this may reflect genuine differences in pricing due to the constraint on fee updates imposed by the Medicare MEI.[24] This would imply that Plan relative payments were closer to resource-based payments than were payments in the Medicare program. Recent Medicare actions to increase primary care fees and reduce fees for certain overvalued procedures have moved Medicare relative fees closer to those of the Plans.

## POLICY DISCUSSION

The substantial budgetary restraints imposed on the Medicare program during the late 1980s appear to have begun widening the gap between private payer rates and Medicare payments. If such a trend were to continue, problems might arise in assuring adequate access to services for Medicare beneficiaries.

It is difficult to say, however, how likely this trend is to continue. First, fees paid by the private sector might well react to changes in the fees paid by Medicare. The Commission's 1991 Report to Congress (PPRC 1991a) details some of the interest which Blue Cross and Blue Shield Plans and other progressive private-sector payers have shown in Medicare physician payment reform. In addition, many payers have begun to use PPOs or other mechanisms to increase the use of low-cost providers. Thus, changes in Medicare payment rates need not necessarily widen the existing gap between Medicare and the private sector. Second, the path of future Medicare fee updates is difficult to predict. Fee updates will of course depend on the behavior of volume growth. In addition, the Secretary has not yet settled on several important aspects of the transition to the new Medicare payment rates that may affect the overall level of payment.

While the path of fees cannot be predicted, the potential for a widening payment disparity between Medicare and other payers underscores the need for ways to reduce the growth in the volume of services. Only if volume growth slows can expenditure growth be reduced without significantly constraining fee updates. The next two chapters examine the state of tools to constrain volume growth, and the potential for further subdividing the VPS to better allocate responsibility for volume growth.

[24] Payments for visit codes have been subject to update restrictions (the MEI) continuously since the mid-1970s. However, because many procedures are new, their payment levels were established later and they have been subject to the MEI constraint for a much shorter period of time.

# CHAPTER 4

# TOOLS FOR CONTROLLING CHANGES IN VOLUME

The growth in Medicare services and expenditures is being addressed in a variety of ways, from research on how to improve the effectiveness of medical practice to formal utilization review programs. This chapter describes important initiatives to control volume. Most of these efforts will not be in a position to be fully effective for several years. Until then, reductions in volume growth will depend largely on the ability and judgment of individual physicians acting on their own initiative.

## EFFECTIVENESS RESEARCH AND PRACTICE GUIDELINES

The Agency for Health Care Policy and Research (AHCPR) was created largely to foster the development of effectiveness research and practice guidelines. The first practice guidelines sponsored by AHCPR will be published later this year. For example, the guidelines on managing urinary incontinence, benign prostatic hypertrophy, and post-operative pain are now undergoing peer review and revision. The Patient Outcome Research Teams (PORTs) are multi-year projects that will not yield results for some time. In all, the Medical Treatment Effectiveness Program (MEDTEP) comprises at least 46 ongoing projects.

There are numerous private initiatives to obtain knowledge of treatment outcomes and to develop practice guidelines. The American Group Practice Association has initiated an Outcomes Management Project that will pool data from individual clinics to answer questions on quality of care and effectiveness of treatment. The American Medical Association has established the Practice Parameters Partnership and the Practice Parameters Forum to complement its longstanding program of Diagnostic and Therapeutic Technology Assessment (DATTA). The American College of Physicians' Clinical Efficacy Assessment Program (CEAP) is another on-going effort. Seemingly every specialty society is now involved in developing standards for practice. Insurers, proprietary groups, and nonprofit organizations are also developing guidelines (Kellie 1991).

Many issues must be addressed for effectiveness and appropriateness research to have their desired effects on the practice of medicine. Outcomes should include some measure of the patient's quality of life (Deyo 1991), and patient preferences must be incorporated in research and in practice guidelines. Methods for developing, assessing, and

disseminating practice guidelines need to be improved. Practice guidelines should be written so that they easily yield criteria to be used in utilization review and quality assurance. A difficult question is the extent to which medical practice should be standardized. Individual and local flexibility have to be preserved to some extent, but not so much that the central purpose of practice guidelines is compromised.

For any benefit to come from the development of practice guidelines, physicians must accept them and change how they practice medicine. The conditions that encourage this process should be carefully considered and studied. AHCPR is developing a research agenda to investigate this. The manner in which the guidelines are developed may be linked to their success in practice. Barriers to change will need to be identified and reduced.

Finally, when the process of developing and implementing practice guidelines has made substantial progress, it is not known whether the volume and cost of services delivered will decrease. Although there clearly is room for substantial reductions in unnecessary and inappropriate services, it is possible that beneficial services are underutilized to a comparable extent. In addition, as new services are developed and shown to be effective, more services will need to be delivered. This usually raises the cost of care. Many believe that the net result of the present efforts to perform outcomes research and develop practice guidelines will be care that is more cost-effective but not necessarily less expensive. One factor that is to be considered in setting the VPS is the extent of inappropriate care; so it would be useful to assess changes over time in the amount of inappropriate services delivered.

Cost-effectiveness is a separate issue in its own right. It is hoped that the VPS system will encourage physicians to reduce unnecessary and inappropriate care. It is not known whether or how the VPS mechanism will encourage or necessitate the reduction of care that is beneficial but not cost-effective by some standard. This raises troubling questions of how cost-effectiveness should be determined, whether and how practice guidelines should incorporate considerations of cost-effectiveness, and how physicians can practice medicine in a manner that is cost-effective for the system as a whole but possibly detrimental to an individual patient. These issues and their relation to the VPS system are only now beginning to be explored, but HCFA reportedly is planning to start considering the cost of services in deciding whether they should be paid for by Medicare (Pear 1991).

## UTILIZATION REVIEW

Formal utilization review and quality assurance activities are carried out by the Medicare carriers and PROs. Medicare's past efforts in this area have been criticized on a number

of grounds (Institute of Medicine 1990). The Medicare program is attempting to improve its methods of utilization review and quality assurance. The implementation of these changes, however, has been slow to progress. For example, Medicare carriers now use a limited amount of profiling to detect outliers in patterns of utilization of services, and the PROs' fourth scope of work reportedly comprises a shift in emphasis of their activities toward epidemiologic surveillance of medical practice. However, there still remain questions about whether the necessary resources and coordination are present to permit substantial improvement.

Physician practice profiling is one technique that can be used to improve utilization review. Medicare's experience with profiling is in its early stages, but profiling can allow utilization review to be more efficient and less intrusive for practitioners (PPRC 1991). Profiling can be particularly useful for assessing utilization of outpatient services. These services tend to be lower in unit cost and higher in volume than inpatient services, which makes intensive review of individual cases uneconomical. Profiling will be essential in understanding the effects of the transition to the Medicare Fee Schedule on the services delivered. Changes in total expenditures must be disaggregated into components including specific services, diagnoses, geographic regions, specialties, and practitioners.

Several issues must be addressed for profiling to realize its potential for helping the Medicare program control utilization of services. Medicare claims data should be more accurate and standardized across carriers. The Common Working File and the Medicare Fee Schedule, including improvements in coding for visits, should help the process of standardization. Medicare is improving the specialty designation in its files to include more specialties, although board certification will still not be recorded. To be most useful, claims data need to be adjusted for the types of diseases treated (case mix), the severity of illness, and the burden of coexisting illnesses on the patient. Medicare is hoping that the Uniform Clinical Data Set will meet these needs for hospitalizations reviewed by PROs.

Other factors affecting the use of profiling to control utilization of services include the nature and timeliness of feedback of information, the ability of practitioners to interpret the results and improve their practices, and access to information concerning profiling. The Agency for Health Care Policy and Research is planning to fund studies of how the results of effectiveness research and practice guidelines can best be disseminated and implemented; this work will be applicable to the dissemination and implementation of profiling results as well. HCFA is conducting a pilot project in which its generic review screens will be released to practitioners, to learn whether the benefits of allowing physicians to know what is expected of them are outweighed by any gaming that may occur.

Medicare's new Comparative Performance Report Program uses profiling to inform physicians when their practice patterns differ significantly from their peers'. Carriers

profile physicians on the number of times they billed for any one CPT code per 100 beneficiaries treated by that physician. Selected physicians whose use rates were more than two standard deviations above the norm are notified by letter of their results for that CPT code compared to their peers. In the first round of this program, approximately 4,000 letters were sent to practitioners in late 1990 and early 1991.

The Comparative Performance Report Program is new, and there is substantial room for improvement. For the program to be most effective, the factors mentioned above that apply to profiling in general should be incorporated. HCFA plans to improve the specialty designation to allow more specific comparisons within specialties and localities, and more physicians will be included in the future. Data limitations prevent case mix from being considered at present. There is no formal system for determining when the deviations from the norm are justified so that they can be excluded from future attention. Because the program is intended to be educational in nature, the results are not being used to focus more intensive review on practitioners, although the practitioners receiving letters will be re-profiled in the future. The effects of the program on practitioner behavior are not being assessed in a controlled manner, although the utilization patterns of the practitioners receiving letters will be tracked. The program is not likely to have a substantial effect on utilization this year. However, it can serve as a beginning to more sophisticated uses of profiling for utilization review.

The PROs' system of pre-authorization attempts to control prospectively the utilization of services that have had high rates of inappropriate use. Under their third scope of work, each PRO is required to perform preprocedure review for 10 procedures. The rates of denials for the procedures are quite low, in the range of a few percent. This may reflect use of looser criteria than those used in research showing higher rates of inappropriate use of these procedures, and it may demonstrate a deterrent effect of the program since use of some of the procedures is declining (Kellie 1991). Although pre-authorization could be made more effective with standardized, tighter criteria, it still will be relatively inefficient because all physicians must submit requests for all included procedures. Profiling could be used to focus preprocedure review more precisely. The PROs fourth scope of work abandons mandatory preprocedure review, although some continued use of it by individual PROs may be permitted.

# CHAPTER 5

# SUBNATIONAL VPSs

In its 1990 Annual Report to Congress (PPRC 1990a), the Commission considered two possibilities for subnational VPSs: VPSs by state and by physician specialty. Either set of subtargets would more closely match the responsibility for expenditure growth to an organized body of physicians potentially capable of influencing physician behavior. In the case of specialty targets, the various specialty societies would be given a very direct stake in influencing the practice patterns of their own members. In the case of states, the locus of control would be carrier and PRO review and the state medical societies and licensing boards.

The issues surrounding refinement of the VPS continue to evolve. In its 1990 Annual Report (PPRC 1990a), the Commission postponed decisions on either type of target. Since that time, OBRA90 expanded the Commission's mandate specifically to include refinements of the VPS.

This chapter summarizes the status of Commission analysis in this area. Many barriers remain to refining the VPS. State VPSs appear difficult to implement due to the large annual fluctuations in expenditure growth for individual states. Narrowly defined specialty or service categories raise many issues regarding the appropriate rate of growth of various categories of service. However, the Commission has expressed interest in further refining the nonsurgical VPS and will continue its efforts on this topic in the coming year.

## STATE VPSs

In the Commission's 1990 Annual Report to Congress (PPRC 1990a), data were presented suggesting that annual expenditure growth within states is highly variable and that long-run rates of expenditure growth differ substantially across states. However, the data used for that analysis (the Medicare Adjusted Average Per Capita Cost files) reflected both variation in utilization and fluctuations in claims processing times. Thus, it may have overstated the true degree of year-to-year variation in utilization.

Since that time, Commission staff have investigated several other sources of state health care expenditure data. All available sources of Medicare data show considerable year-to-year fluctuations in the growth of expenditures by state (Table 8). In addition, historical Blue Shield data show fluctuations in growth of similar magnitude (Table 9).

**Table 8. Examples of States with Large Fluctuations in Medicare Part B Expenditure Growth**

| | Growth, 86-87 | Growth, 87-88 |
|---|---|---|
| California | >8% | <5% |
| Hawaii | <2 | >8 |
| Maine | >20 | <9 |
| Michigan | <6 | >20 |
| Nebraska | >17 | <-3 |
| North Dakota | >16 | <6 |
| Oklahoma | >17 | <11 |
| South Dakota | >16 | <8 |
| Washington | >13 | <7 |

Source: PPRC analysis of 1986 through 1988 Medicare BMAD-I and BB2A data.

Note: The above analysis was restricted to states where there was substantial agreement between two sources of Medicare Part B data. Totals calculated from BMAD data closely matched totals calculated from BB2A data, a 5 percent sample of Medicare payment records.

A ">" symbol indicates that the growth rate was at least that high in both data sources. A "<" symbol indicates that the growth rate was at least that low in both data sources.

The Commission recently commissioned a study comparing outlay growth in a dozen Blue Cross and Blue Shield Plans with the corresponding Medicare outlay increases.[25] For this study, expenditures per enrollee (for Plans) and per beneficiary (for Medicare) were compared for 12 Plans for the years 1986 through 1988. These data showed that Plans typically experienced annual variations in expenditure growth that were similar to those experienced by Medicare.

[25] This study was performed by Dr. Zachary Dyckman of the Center for Health Policy Studies. This analysis was entirely separate from the analysis of trends in Plan and Medicare payment rates reported in Chapter 3.

**Table 9. Annual Change in Reported Benefits Costs Per Enrollee, Blue Cross and Blue Shield Plans, 1977-1981**

| Plan | Change 77-78 | Change 78-79 | Change 79-80 | Change 80-81 |
|---|---|---|---|---|
| District of Columbia | 8.5% | 5.0% | 14.8% | 13.0% |
| Florida | 8.3 | 28.0 | 5.0 | . |
| Indiana | 15.3 | 10.8 | 22.9 | 28.2 |
| Iowa | 18.2 | 15.4 | 18.9 | 15.1 |
| Kansas | 10.2 | 5.1 | 23.0 | 21.7 |
| Maryland | 14.4 | 9.8 | 20.5 | 18.5 |
| Massachusetts | 6.1 | 9.0 | 16.5 | 13.3 |
| Missouri | 15.5 | 15.4 | 14.9 | 28.2 |
| New Jersey | 7.3 | 9.0 | 9.7 | 14.7 |
| North Dakota | 15.2 | 7.9 | 22.4 | 25.6 |
| Ohio | 14.3 | 15.5 | 17.8 | 37.6 |
| Pennsylvania | 10.2 | 17.3 | 15.2 | 23.4 |
| Rhode Island | 8.0 | 10.2 | 14.5 | 20.0 |
| South Dakota | 15.9 | 11.9 | 14.6 | 17.1 |
| Texas | . | 13.9 | 13.0 | 22.7 |
| Utah | 11.7 | 2.9 | 14.0 | 27.7 |
| Virginia | 11.9 | 9.2 | 14.6 | 25.3 |
| West Virginia | 11.8 | 3.1 | 26.1 | 17.1 |

Source: PPRC analysis of Blue Cross and Blue Shield Plan Fact Book information, 1977-1981.

Notes: These are all plans reporting data separately for Blue Shield operations. Plans reporting combined Blue Cross (hospital) and Blue Shield data are excluded.

A "." signifies that data were not available or that a consistent series could not be constructed.

Thus, substantial real variation in annual expenditure growth within states appears to be the norm for physician services expenditures. This is true both for current Medicare data and for historical and current Blue Cross and Blue Shield data.

For this reason the Commission has postponed further work in developing a state VPS system. Analysis might wait until several years of data are available from the new Common Working File (CWF). The CWF data should eliminate all doubt that the

variations reported here are real and not an artifact of the data reporting systems. In addition, designing a reasonable state VPS system could be a formidable task. The large annual fluctuations in expenditure growth, if factored immediately into fee updates, would result in large and probably unacceptable swings in fees. A workable system of state VPSs will probably have to be substantially more complex and flexible than the current VPS.

## SPECIALTY OR SERVICE VPSs

In its 1990 Annual Report to Congress (PPRC 1990a), the Commission offered four objections to the use of narrow specialty-specific VPSs. First, it was thought that such a tightly compartmentalized approach to expenditures did not reflect the interdisciplinary and cooperative nature of patient care. Second, specialty definitions within the Medicare data reporting system are somewhat vague, leaving the overlap between specialties as defined by the carriers and the various national specialty organization memberships uncertain. Third, determining rates of increase in expenditures that differ by specialty would require considerable judgment about the appropriate trends in the practice of medicine. Finally, the differential updates entailed by specialty VPSs might eventually move payments away from their resource-based relative values.

There may be a need for further work on service-based VPSs, however, within the context of the current surgical/nonsurgical VPSs. The surgical VPS includes only surgery performed by surgeons. The nonsurgical VPS, in contrast, combines primary care, other evaluation and management services, and nonsurgical technical procedures such as endoscopy, radiology, lab tests, and anesthesia.

Further subdivision of the nonsurgical VPS may be reasonable on two counts. First, no individual medical organization speaks for the physicians included in the nonsurgical target, meaning that no single organization has the ability to influence the volume of services provided under that target. Second, and perhaps more importantly, continued fee constraint may have differential impacts on different types of providers. The VPS has a uniform impact on fees because the fee update for all nonsurgical services is determined by the overall volume increase. However, differences among physician specialties in their reliance on Medicare as a source of income or in their ability to influence the volume of services may create a differential impact on incomes. If past volume growth is a guide, physicians who do not perform technical procedures have less scope for increasing the volume of care provided. This means that general practitioners and family practitioners, who are among the most poorly paid physicians, may see a further relative decline in income if continued aggregate volume growth reduces fee updates. This may eventually reduce access to primary care services.

Arguing against a further subdivision of the nonsurgical VPS, however, are the large differences in trend rates of growth of the various types of services included in the target. Compared to the volume of services provided by general and family practitioners, the volume of gastroenterology services has been increasing four times as fast, and the volume of cardiology services has been increasing three times as fast.[26] Narrowly defined subtargets would either have to ignore these very large disparities in volume growth or justify very different target rates of growth.

The Commission will continue to pursue analysis of VPSs based on specialty or category of services. There may be a need for further subdivision of the current nonsurgical VPS. At this point, however, it is not clear whether or how such a VPS refinement could be accomplished.

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[26] In contrast, the difference in volume increase between surgical and nonsurgical services has only been 1 to 2 percentage points. The Commission, after considerable debate, included a 1 percentage point differential in its FY 1991 VPS recommendation, but no volume differential in its FY 1992 recommendation. The Secretary has not yet suggested differential allowances for volume growth across the surgical and nonsurgical targets.

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